

SECTION V

Geology and Hydrogeology

V.A Regional Geology

V.A.1 Regional Petroleum Production

V.A.2 Regional Stratigraphy

V.A.2.a Yegua/Cockfield Formation

V.A.2.b Jackson Formation

V.A.2.c Frio/Vicksburg

V.A.2.d Gulf Coast Aquifer System

V.A.2 Regional Hydro-Stratigraphy

V.A.3 Definition and Description of Confining Zone and Injection Zone

V.A.4 Regional Cross-Section

V.A.5 Regional Structural Geology

V.A.6 Regional Seismic Activity

V.A.6.a Induced Seismicity

V.A.6.b Seismic Risk

V.A.5 Regional Groundwater Flow in the Injection Zone

V.B Local Geology

V.B.1 Local Stratigraphy

Stratigraphy of USDWs

V.B.1.a Jackson Formation – Upper Confining Zone

V.B.1.b Yegua/Cockfield Formation

V.B.1.b.i Upper Cockfield Member

V.B.1.b.ii Middle Cockfield Member

V.B.1.b.iii Lower Cockfield Member

V.B.1.b.iiii Cockfield Shale Member – The Lower Confining Zone

V.B.2 Local Hydro-Stratigraphy

V.B.3 Definition and Description of USDW, Confining Zone, Injection Zone, Injection Interval, and Lower Confining Strata

V.B.3.a USDWs

V.B.3.a.i Gulf Coast Aquifer System

V.B.3.a.ii Catahoula Aquifer

V.B.3.a.iii Water Quality

V.B.3.a.iv Buffer Aquifer(s)

V.B.3.b Upper Confining Zone

V.B.3.c Injection Zone

V.B.3.d Lower Confining Zone

V.B.4 Local Stratigraphic Cross-Sections

V.B.5 Local Structural Geology

V.B.6 Local Fault Transmissivity

V.B.7 Confining Zone Faults and Fractures

V.B.8 Confining Zone Lithologic and Stress Characteristics

V.B.9 Definition and Description of Buffer Aquifers

V.B.10	Local Seismic History
V.B.11	Surface Geology
V.C	Well Logs

References

- FIGURE V.A.1: Stratigraphic Column of quaternary and tertiary strata in the northwestern gulf coast
- Figure V.B.1.1: Stratigraphic Column for the WDW-315 Injection Well, Montgomery County, Texas
- Figure V.B.1.2: Cockfield Formation in the WDW-315 Well; Illustrated with Open-Hole Wire-Line Logs**
- Figure V.B.1.3: Important Regulatory Units in the AOR**
- Figure V.B.2.1 Local Hydro-Stratigraphy at TexCom Injection Facility**
- Figure V.B.2.2: Map of TexCom Injection Facility and Water Wells. 2.5-mile Area of Review is shown**
- Figure V.B.3.1: Dip-Wise Cross-Section of Gulf Coast Aquifer System (Kasmerak and Robinson, 2004)**
- Figure V.B.3.2: Stratigraphic Summary of Water Quality Data in the TexCom AOR. Depths shown are log-depths from the WDW-315 well**
- Figure V.B.3.3: Injection Zone Data for TexCom WDW-315**

- Table V.A.2: Subsurface Geology/Stratigraphic Column in the Area of the WDW-315 Well**
- TABLE V.A.3.1 Injection Elements in the Area of the WDW-315 Well
- Table V.A.6.b: Earthquake Hazard Data (USGS, 2005)
- Table V.B.1.4: Local Stratigraphic Column**
- Calculated Salinities from WDW-315 WDW Logs**